

## Aluminum Capacitors Powerlytic™, Large Can



### FEATURES

- Useful life: 1000 h at +85 °C
- High capacitance per case size
- High ripple current
- Low leakage current
- Long shelf life and operating life
- Type 36D ratings recommended for replacement applications only. For new designs, see type 36DY
- Screw terminal
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)


**RoHS  
COMPLIANT**

| QUICK REFERENCE DATA                        |            |   |   |
|---|------------|---|---|
| DESCRIPTION                                 |            | VALUE   |   |
| Nominal case size<br>Ø D x L in inches (mm) |            | 1.453 x 2.250 (36.9 x 57.2) to 3.078 x 8.750 (78.2 x 222.3)   |   |
| Operating temperature                       |            | -40 °C to +85 °C (36DX)<br>-40 °C to +95 °C (36DE)  |   |
| Rated capacitance range, C <sub>R</sub>     |            | 190 µF to 50 000 µF   |   |
| Tolerance on C <sub>R</sub>                 |            | +75 %, -10 % (10 WV <sub>DC</sub> to 100 WV <sub>DC</sub> )<br>+50 %, -10 % (200 WV <sub>DC</sub> to 450 WV <sub>DC</sub> ) |   |
| Rated voltage range, U <sub>R</sub>         |            | 10 WV <sub>DC</sub> to 450 WV <sub>DC</sub>   |   |
| Life validation test at 85 °C               |            | 1000 h: ΔCAP ± 15 % from initial measurement. ΔESR 1.5 x initial specified limit  |   |
| DC leakage current                          | 36D        | $I = k\sqrt{CV}$<br>I in µA, C in µF, V in Volts  | k = 6.0 at +25 °C, k = 36 at +65 °C, k = 50 at +85 °C |
|   | 36DE, 36DX |   | k = 4.0 at +25 °C, k = 32 at +85 °C                   |

| DIMENSIONS in inches (millimeters) |                    |                    |                        |               |                        |                                     |                       |
|------------------------------------|--------------------|--------------------|------------------------|---------------|------------------------|-------------------------------------|-----------------------|
| LARGE CAN CAPACITORS               |                    |                    |                        |               |                        |                                     |                       |
| CASE CODE                          | NOMINAL            |                    | WITH INSULATION SLEEVE |               |                        | TERMINAL SPACING<br>M ± 0.016 (0.4) | TYPICAL WEIGHT<br>(g) |
|                                    | D<br>± 0.032 (0.8) | L<br>± 0.063 (1.6) | D<br>(Max.)            | L<br>(Max.)   | P TERMINAL<br>H (Max.) |                                     |                       |
| AN                                 | 1.375 (35.0)       | 1.625 (41.0)       | 1.453 (36.9)           | 1.750 (44.5)  | 1.849 (47.0)           | 0.500 (12.7)                        | 43.0                  |
| AY                                 | 1.375 (35.0)       | 1.875 (48.0)       | 1.453 (36.9)           | 2.000 (50.8)  | 1.099 (53.3)           | 0.500 (12.7)                        | 54.0                  |
| AA                                 | 1.375 (35.0)       | 2.125 (54.0)       | 1.453 (36.9)           | 2.250 (57.2)  | 1.349 (59.7)           | 0.500 (12.7)                        | 63.0                  |
| AM                                 | 1.375 (35.0)       | 2.625 (67.0)       | 1.453 (36.9)           | 2.750 (69.9)  | 1.849 (72.4)           | 0.500 (12.7)                        | 82.0                  |
| AB                                 | 1.375 (35.0)       | 3.125 (79.0)       | 1.453 (36.9)           | 3.250 (82.6)  | 1.349 (85.1)           | 0.500 (12.7)                        | 105.0                 |
| AL                                 | 1.375 (35.0)       | 3.625 (92.0)       | 1.453 (36.9)           | 3.750 (95.3)  | 1.849 (97.8)           | 0.500 (12.7)                        | 122.0                 |
| AC                                 | 1.375 (35.0)       | 4.125 (105.0)      | 1.453 (36.9)           | 4.250 (108.0) | 1.349 (110.5)          | 0.500 (12.7)                        | 129.0                 |
| AD                                 | 1.375 (35.0)       | 4.625 (117.0)      | 1.453 (36.9)           | 4.750 (120.7) | 1.849 (123.2)          | 0.500 (12.7)                        | 162.0                 |
| AE                                 | 1.375 (35.0)       | 5.125 (130.0)      | 1.453 (36.9)           | 5.250 (133.4) | 1.349 (125.9)          | 0.500 (12.7)                        | 179.0                 |
| AF                                 | 1.375 (35.0)       | 5.625 (143.0)      | 1.453 (36.9)           | 5.750 (146.1) | 1.849 (148.6)          | 0.500 (12.7)                        | 201.0                 |
| EN                                 | 1.750 (44.0)       | 1.625 (41.0)       | 1.828 (46.4)           | 1.750 (44.5)  | 1.849 (47.0)           | 0.750 (19.1)                        | 71.0                  |
| EA                                 | 1.750 (44.0)       | 2.125 (54.0)       | 1.828 (46.4)           | 2.250 (57.2)  | 2.349 (59.7)           | 0.750 (19.1)                        | 102.0                 |
| EM                                 | 1.750 (44.0)       | 2.625 (67.0)       | 1.828 (46.4)           | 2.750 (69.9)  | 2.849 (72.4)           | 0.750 (19.1)                        | 133.0                 |
| EB                                 | 1.750 (44.0)       | 3.125 (79.0)       | 1.828 (46.4)           | 3.250 (82.6)  | 3.349 (85.1)           | 0.750 (19.1)                        | 167.0                 |
| EL                                 | 1.750 (44.0)       | 3.625 (92.0)       | 1.828 (46.4)           | 3.750 (95.3)  | 3.849 (97.8)           | 0.750 (19.1)                        | 198.0                 |
| EC                                 | 1.750 (44.0)       | 4.125 (105.0)      | 1.828 (46.4)           | 4.250 (108.0) | 4.349 (110.5)          | 0.750 (19.1)                        | 230.0                 |
| ED                                 | 1.750 (44.0)       | 4.625 (117.0)      | 1.828 (46.4)           | 4.750 (120.7) | 4.849 (123.2)          | 0.750 (19.1)                        | 252.0                 |

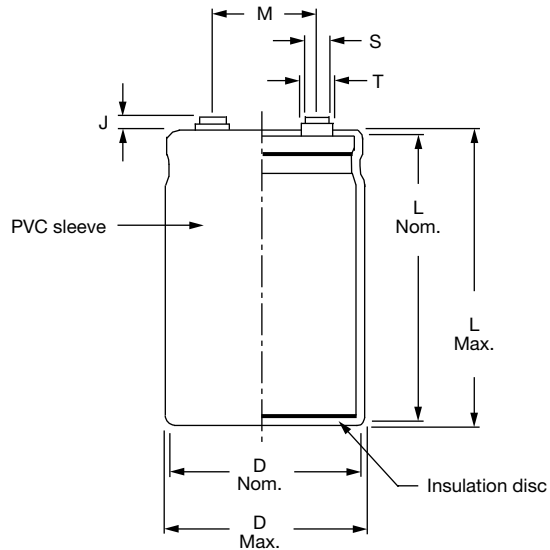


| DIMENSIONS in inches (millimeters) |                    |                    |                        |               |                        |                                     |                       |
|------------------------------------|--------------------|--------------------|------------------------|---------------|------------------------|-------------------------------------|-----------------------|
| LARGE CAN CAPACITORS               |                    |                    |                        |               |                        |                                     |                       |
| CASE CODE                          | NOMINAL            |                    | WITH INSULATION SLEEVE |               |                        | TERMINAL SPACING<br>M ± 0.016 (0.4) | TYPICAL WEIGHT<br>(g) |
|                                    | D<br>± 0.032 (0.8) | L<br>± 0.063 (1.6) | D<br>(Max.)            | L<br>(Max.)   | P TERMINAL<br>H (Max.) |                                     |                       |
| EE                                 | 1.750 (44.0)       | 5.125 (130.0)      | 1.828 (46.4)           | 5.250 (133.4) | 5.349 (135.9)          | 0.750 (19.1)                        | 269.0                 |
| EF                                 | 1.750 (44.0)       | 5.625 (143.0)      | 1.828 (46.4)           | 5.750 (146.1) | 5.849 (148.6)          | 0.750 (19.1)                        | 318.0                 |
| BY                                 | 2.000 (51.0)       | 1.875 (48.0)       | 2.078 (52.8)           | 2.000 (50.8)  | 2.099 (53.3)           | 0.875 (22.2)                        | 113.0                 |
| BA                                 | 2.000 (51.0)       | 2.125 (54.0)       | 2.078 (52.8)           | 2.250 (57.2)  | 2.349 (59.7)           | 0.875 (22.2)                        | 133.0                 |
| BM                                 | 2.000 (51.0)       | 2.625 (67.0)       | 2.078 (52.8)           | 2.750 (69.9)  | 2.849 (72.4)           | 0.875 (22.2)                        | 176.0                 |
| BB                                 | 2.000 (51.0)       | 3.125 (79.0)       | 2.078 (52.8)           | 3.250 (82.6)  | 3.349 (85.1)           | 0.875 (22.2)                        | 213.0                 |
| BL                                 | 2.000 (51.0)       | 3.625 (92.0)       | 2.078 (52.8)           | 3.750 (95.3)  | 3.849 (97.8)           | 0.875 (22.2)                        | 261.0                 |
| BC                                 | 2.000 (51.0)       | 4.125 (105.0)      | 2.078 (52.8)           | 4.250 (108.0) | 4.349 (110.5)          | 0.875 (22.2)                        | 381.0                 |
| BD                                 | 2.000 (51.0)       | 4.625 (117.0)      | 2.078 (52.8)           | 4.750 (120.7) | 4.849 (123.2)          | 0.875 (22.2)                        | 326.0                 |
| BE                                 | 2.000 (51.0)       | 5.125 (130.0)      | 2.078 (52.8)           | 5.250 (133.4) | 5.349 (135.9)          | 0.875 (22.2)                        | 337.0                 |
| BF                                 | 2.000 (51.0)       | 5.625 (143.0)      | 2.078 (52.8)           | 5.750 (146.1) | 5.849 (148.6)          | 0.875 (22.2)                        | 408.0                 |
| CB                                 | 2.500 (64.0)       | 3.125 (79.0)       | 2.578 (65.5)           | 3.250 (82.6)  | n/a                    | 1.125 (28.6)                        | 329.0                 |
| CL                                 | 2.500 (64.0)       | 3.625 (92.0)       | 2.578 (65.5)           | 3.750 (95.3)  | n/a                    | 1.125 (28.6)                        | 400.0                 |
| CC                                 | 2.500 (64.0)       | 4.125 (105.0)      | 2.578 (65.5)           | 4.250 (108.0) | n/a                    | 1.125 (28.6)                        | 473.0                 |
| CD                                 | 2.500 (64.0)       | 4.625 (117.0)      | 2.578 (65.5)           | 4.750 (120.7) | n/a                    | 1.125 (28.6)                        | 562.0                 |
| CE                                 | 2.500 (64.0)       | 5.125 (130.0)      | 2.578 (65.5)           | 5.250 (133.4) | n/a                    | 1.125 (28.6)                        | 607.0                 |
| CF                                 | 2.500 (64.0)       | 5.625 (143.0)      | 2.578 (65.5)           | 5.750 (146.1) | n/a                    | 1.125 (28.6)                        | 675.0                 |
| DB                                 | 3.000 (76.0)       | 3.125 (79.0)       | 3.078 (78.2)           | 3.250 (82.6)  | n/a                    | 1.250 (31.8)                        | 496.0                 |
| DL                                 | 3.000 (76.0)       | 3.625 (92.0)       | 3.078 (78.2)           | 3.750 (95.3)  | n/a                    | 1.250 (31.8)                        | 598.0                 |
| DC                                 | 3.000 (76.0)       | 4.125 (105.0)      | 3.078 (78.2)           | 4.250 (108.0) | n/a                    | 1.250 (31.8)                        | 700.0                 |
| DD                                 | 3.000 (76.0)       | 4.625 (117.0)      | 3.078 (78.2)           | 4.750 (120.7) | n/a                    | 1.250 (31.8)                        | 802.0                 |
| DE                                 | 3.000 (76.0)       | 5.125 (130.0)      | 3.078 (78.2)           | 5.250 (133.4) | n/a                    | 1.250 (31.8)                        | 944.0                 |
| DF                                 | 3.000 (76.0)       | 5.625 (143.0)      | 3.078 (78.2)           | 5.750 (146.1) | n/a                    | 1.250 (31.8)                        | 1004.0                |
| DJ                                 | 3.000 (76.0)       | 8.625 (219.0)      | 3.078 (78.2)           | 8.750 (222.3) | n/a                    | 1.250 (31.8)                        | 1403.0                |

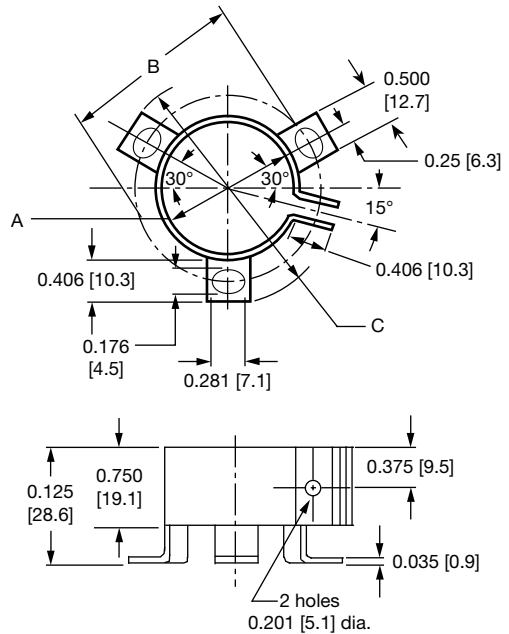
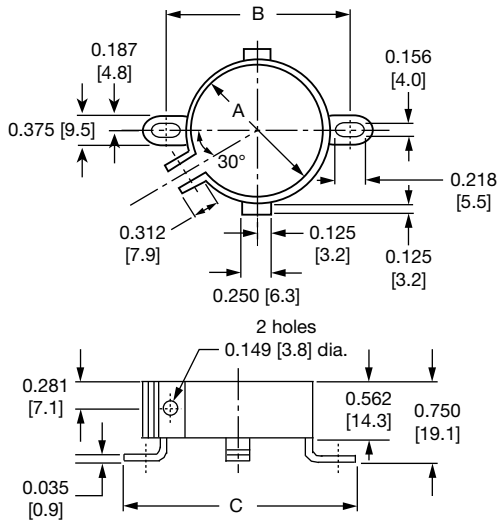
| DIMENSIONS in inches (millimeters) |              |              |                            |                              |                              |                         |
|------------------------------------|--------------|--------------|----------------------------|------------------------------|------------------------------|-------------------------|
| BRACKETS (RoHS-COMPLIANT)          |              |              |                            |                              |                              |                         |
| TYPE                               | PART NUMBER  | A            | B                          | C                            | FIGURE NUMBER                |                         |
| 2 Feet                             | 1245860035A  | 1.375 (34.9) | 1.781 (45.2)               | 2.218 (56.3)                 | 1                            |                         |
| 3 Feet                             | 1245860036A  | 2.000 (50.8) | 2.500 (63.5)               | 2.875 (73.0)                 | 2                            |                         |
| 3 Feet                             | 1245860037A  | 2.500 (63.5) | 3.000 (76.2)               | 3.375 (85.7)                 | 2                            |                         |
| 3 Feet                             | 1245860038A  | 3.000 (76.2) | 3.500 (88.9)               | 3.875 (98.4)                 | 2                            |                         |
| SCREW INSERT TERMINAL DIMENSIONS   |              |              |                            |                              |                              |                         |
| TERMINAL CODE                      | THREAD       | THREAD DEPTH | HEIGHT<br>J ± 0.032 (0.81) | DIAMETER<br>S ± 0.010 (0.25) | DIAMETER<br>T ± 0.010 (0.25) | NOTES                   |
| A                                  | 10-32 NF-28  | 0.219 (5.6)  | 0.063 (1.6)                | 0.313 (8.0)                  | 0.438 (11.1)                 | All cases codes         |
| B                                  | 10-32 NF-28  | 0.375 (9.5)  | 0.250 (6.4)                | 0.313 (8.0)                  | 0.438 (11.1)                 | All cases codes         |
| D                                  | 1/4-28 NF-28 | 0.344 (8.7)  | 0.093 (2.4)                | 0.688 (17.5)                 | -                            | C and D dia. codes only |

**DIMENSIONS AND AVAILABLE FORMS**

**SCREW INSERT TERMINALS**



**LARGE CAN BRACKETS**



**ORDERING EXAMPLE**

Electrolytic capacitor 36DX series: 36DX 392 G 075 BB 2 A

| DESCRIPTION |  |
|-------------|--|
| CODE        | EXPLANATION                                      |
| 36DX        | Product type                                     |
| 392         | Capacitance value (3900 $\mu$ F)                 |
| G           | Tolerance (G = -10 % / +75 %; F = -10 % / +50 %) |
| 075         | Voltage rating at 85 °C (75 V)                   |
| BB          | Can size (see dimensions table)                  |
| 2           | PVC insulating sleeve                            |
| A           | Terminal code (low insert 10-32 screw thread)    |



| <b>ELECTRICAL DATA AND ORDERING INFORMATION</b> (original / improved ratings) |                  |                    |
|---|------------------|--------------------|
| <b>CAPACITANCE (µF)</b>   | <b>CASE CODE</b> | <b>PART NUMBER</b> |
| <b>TYPE 36D</b>   |                  |                    |
| <b>15 V<sub>DC</sub> AT +85 °C, SURGE = 18 V</b>                              |                  |                    |
| 13 000  | AC               | 36D133G015AC2A     |
| <b>25 V<sub>DC</sub> AT +85 °C, SURGE = 30 V</b>                              |                  |                    |
| 2700  | AA               | 36D272G025AA2A     |
| 5500  | AB               | 36D552G025AB2A     |
| <b>40 V<sub>DC</sub> AT +85 °C, SURGE = 50 V</b>                              |                  |                    |
| 5500  | AC               | 36D552G040AC2A     |
| 8400  | BB               | 36D842G040BB2A     |
| 12 000  | BC               | 36D123G040BC2A     |
| <b>50 V<sub>DC</sub> AT +85 °C, SURGE = 65 V</b>                              |                  |                    |
| 1300  | AA               | 36D132G050AA2A     |
| 2600  | AB               | 36D262G050AB2A     |
| 3900  | AC               | 36D392G050AC2A     |
| 5200  | AE               | 36D522G050AE2A     |
| 6000  | BB               | 36D602G050BB2A     |
| 9000  | BC               | 36D902G050BC2A     |
| 15 000  | CC               | 36D153G050CC2A     |
| <b>75 V<sub>DC</sub> AT +85 °C, SURGE = 95 V</b>                              |                  |                    |
| 3900  | BB               | 36D392G075BB2A     |
| 10 000  | CC               | 36D103G075CC2A     |
| <b>350 V<sub>DC</sub> AT +85 °C, SURGE = 400 V</b>                            |                  |                    |
| 190   | AB               | 36D191F350AB2A     |
| <b>TYPE 36DE</b>  |                  |                    |
| <b>10 V<sub>DC</sub> AT +85 °C, SURGE = 12 V</b>                              |                  |                    |
| 23 000  | AA               | 36DE233G010AA2A    |
| <b>25 V<sub>DC</sub> AT +85 °C, SURGE = 30 V</b>                              |                  |                    |
| 40 000  | BB               | 36DE403G025BB2A    |
| <b>40 V<sub>DC</sub> AT +85 °C, SURGE = 50 V</b>                              |                  |                    |
| 24 000  | BB               | 36DE243G040BB2A    |
| <b>TYPE 36DX</b>  |                  |                    |
| <b>15 V<sub>DC</sub> AT +85 °C, SURGE = 18 V</b>                              |                  |                    |
| 7500  | AA               | 36DX752G015AA2A    |
| 15 000  | AB               | 36DX153G015AB2A    |
| 22 000  | AC               | 36DX223G015AC2A    |
| 34 000  | AF               | 36DX343G015AF2a    |
| 50 000  | BC               | 36DX503G015BC2A    |
| <b>25 V<sub>DC</sub> AT +85 °C, SURGE = 30 V</b>                              |                  |                    |
| 4500  | AA               | 36DX452G025AA2A    |
| 9000  | AB               | 36DX902G025AB2A    |
| 13 000  | AC               | 36DX133G025AC2A    |
| 20 000  | AF               | 36DX203G025AF2A    |
| 30 000  | BC               | 36DX303G025BC2A    |
| 50 000  | CC               | 36DX503G025CC2A    |



| <b>ELECTRICAL DATA AND ORDERING INFORMATION</b> (original / improved ratings) |                  |                    |
|---|------------------|--------------------|
| <b>CAPACITANCE (μF)</b>   | <b>CASE CODE</b> | <b>PART NUMBER</b> |
| <b>TYPE 36DX</b>  |                  |                    |
| <b>30 V<sub>DC</sub> AT +85 °C, SURGE = 40 V</b>                              |                  |                    |
| 4000  | AA               | 36DX402G030AA2A    |
| 8000  | AB               | 36DX802G030AB2A    |
| 18 000  | AF               | 36DX183G030AF2A    |
| 26 000  | BC               | 36DX263G030BC2A    |
| <b>40 V<sub>DC</sub> AT +85 °C, SURGE = 50 V</b>                              |                  |                    |
| 2900  | AA               | 36DX292G040AA2A    |
| 5800  | AB               | 36DX582G040AB2A    |
| 8700  | AC               | 36DX872G040AC2A    |
| 20 000  | BC               | 36DX203G040BC2A    |
| 34 000  | CC               | 36DX343G040CC2A    |
| <b>50 V<sub>DC</sub> AT +85 °C, SURGE = 65 V</b>                              |                  |                    |
| 2400  | AA               | 36DX242G050AA2A    |
| 4800  | AB               | 36DX482G050AB2A    |
| 7200  | AC               | 36DX722G050AC2A    |
| 11 000  | AF               | 36DX113G050AF2A    |
| 16 000  | BC               | 36DX163G050BC2A    |
| 24 000  | BF               | 36DX243G050BF2A    |
| 40 000  | CF               | 36DX403G050CF2A    |
| 41 000  | DC               | 36DX413G050DC2A    |
| <b>75 V<sub>DC</sub> AT +85 °C, SURGE = 95 V</b>                              |                  |                    |
| 1400  | AA               | 36DX142G075AA2A    |
| 4200  | AC               | 36DX422G075AC2A    |
| 10 000  | BC               | 36DX103G075BC2A    |
| 17 000  | CC               | 36DX173G075CC2A    |
| <b>100 V<sub>DC</sub> AT +85 °C, SURGE = 125 V</b>                            |                  |                    |
| 1700  | AB               | 36DX172G100AB2A    |
| <b>200 V<sub>DC</sub> AT +85 °C, SURGE = 250 V</b>                            |                  |                    |
| 850   | AC               | 36DX851F200AC2A    |
| 2000  | BC               | 36DX202F200BC2A    |
| 2800  | BC               | 36DX282F200BC2A    |
| 3400  | CC               | 36DX342F200CC2A    |
| 7400  | DF               | 36DX742F200DF2A    |
| <b>250 V<sub>DC</sub> AT +85 °C, SURGE = 300 V</b>                            |                  |                    |
| 500   | AB               | 36DX501F250AB2A    |
| 10 000  | DJ               | 36DX103F250DJ2A    |
| <b>350 V<sub>DC</sub> AT +85 °C, SURGE = 400 V</b>                            |                  |                    |
| 3100  | DF               | 36DX312F350DF2A    |
| 3300  | DF               | 36DX332F350DF2A    |
| 5100  | DJ               | 36DX512F350DJ2A    |
| <b>450 V<sub>DC</sub> AT +85 °C, SURGE = 525 V</b>                            |                  |                    |
| 230   | AC               | 36Dx231F450AC2A    |
| 2000  | DF               | 36DX202F450DF2A    |
| 3100  | DJ               | 36DX312F450DJ2A    |
| 3500  | DJ               | 36DX352F450DJ2A    |

Statements about product lifetime are based on calculations and internal testing. They should only be interpreted as estimations. Also due to external factors, the lifetime in the field application may deviate from the calculated lifetime. In general, nothing stated herein shall be construed as a guarantee of durability.



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